

DISCOURSES UPON THE LEPIDOPTERA.
II. FAMILIARITY WITH LOCAL FORMS.

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Errors in naming, omitting such as are the result of carelessness, are principally due, as the late Dr. Johnson would bluntly have expressed it, to "sheer ignorance." To put it more mildly and explicitly, they are the result of unfamiliarity with species.

On the North American continent, very few species of lepidoptera have ever been carefully bred from known parents. Consequently, reliance has had to be made for separation of species upon close observation of the insects in the perfect or winged state,—the *imagines*, that being the correct plural of the word *imago*. It goes without saying that considerable experience is absolutely necessary before deductions of any value can be drawn from appearances. A good foundation of experience is having bred sundry very variable species from the egg, and observed first hand the possibilities and limits of variation in different genera. For not only different species, but, in a general sense, different genera also, vary in different ways. For instance, quite a distinct phase of variation may be expected in a *Mamestra*, from that prevailing in a *Cucullia*; and an *Euxoa* is apt to vary to an infinitely greater degree than say, an *Acronycta*. Next in value of experience gained by breeding, is a study of long series of known variable species from known localities.

Now, the value of deductions drawn from such a source, depends, of course, very largely upon the conception, or "eye" of the person making the observations. For even with the same amount of experience and material for deductions, some people are known to possess a much better eye for associations than others. It is not a question of keenness of vision, but a fact that some are better able to take in and make due allowances for the general impression conveyed from colour, etc., without being misled by resemblances. The idea is perhaps poorly expressed, but it is undeniable that though "an eye for a species" can be cultivated, it cannot be acquired where it does not naturally exist. The late Mr. A. R. Grote, when it is considered what scant material he had from which to make deductions on North American forms, must be admitted to have had an excellent eye for a species. The same cannot, unfortunately, be said of Mr. Francis Walker, curator of the British Museum of Natural History in the fifties and sixties. Nor can the two men be compared in the amount of care they took in comparison.

But to return to the basis for deductions. Observations of